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*Fig. 2.*



Eben James

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR MAKING BOXES.

Specification forming part of Letters Patent No. **170,859**, dated December 7, 1875; application filed  
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*To all whom it may concern :*

Be it known that I, EBEN JAMES, of Tyngsborough, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Machines for Making Boxes, of which the following is a specification:

My invention consists in a packer having three sides adjustable, as hereinafter described, to hold stock of different dimensions; also, in making the table, on which said packer traverses, adjustable toward and from the rotary gang of chisels to regulate the depth of the slots made by said chisels.

In the accompanying drawings, Figure 1 is a side elevation of my machine, with a portion of the table broken away to show the packer, the grooves in which the packer slides, and the opening through which the gang of chisels reaches the stock; and Fig. 2 is a plan of the same, with one side of the table broken, showing said grooves. Fig. 3 shows the slots formed in the end of the stock.

Both sides of the machine are alike in all respects with the exception of the driving-pulley.

A is the rectangular frame supported on legs. B is an arbor which runs in boxes C supported by the frame A, and is driven by the pulley D on the end of said arbor. Chisels E E' E'', alternating with washers, are secured upon said arbor in the usual manner, and so arranged that a line running through the middle points of their cutting-edges will describe a spiral about said arbor.

This arrangement of the chisels avoids the danger of breaking off the whole width of the stock. The cutting-edges of said chisels are parallel to the axis of said arbor, and at right angles to the sides of said chisels, so that said chisels cut a rectangular slot in the ends of the stock parallel to the sides of said stock.

F is a rectangular table hinged at one end, at G, to the top of the end of the frame A. The other end of said table rests upon, and is lowered or raised by, a screw, H, running vertically through the middle of the other end

of said frame A, and operated by the hand-wheel I at the lower end of said screw H.

The table has a rectangular opening above the gang of chisels long enough and wide enough to allow said chisels to project through said opening. By lowering or raising the table the depth of the cuts made by the chisels is increased or diminished.

The table F has raised sides J J' grooved from end to end, as seen at K K', and into the grooves project tongues L L' on the sides of the packer.

The packer consists of a rectangular frame, X, supported by the tongues L L' and grooves K K' at a sufficient distance above the floor of said table to be out of the reach of the chisels when the table is in its lowest position.

The T-shaped guides M M' are held in place and adjusted by means of set-screws N N' running through slots O O' in said guides into pieces which project from the sides of the frame X over the raised sides of the table.

The sliding clamp consists of a flat piece, P, which rests upon the broad outer end of the packer-frame X. To the inner end of said piece P is secured a raised edge, Q, to give a greater bearing-surface upon the stock, and two guides, R R', which extend from said piece P under the ends of the T-shaped guides M M'. The clamp is pushed against and drawn from the stock by the screw S and hand-wheel U. Said screw is supported in the bearing V, and moves the nut W secured to the top of piece P.

A nest of boards, Y Y' Y'', of the proper length and width, is placed in the packer, the ends of the boards resting upon the table F, with the grain of the wood perpendicular to the table. The guides M M' are then adjusted against the sides of said nest, and the sliding clamp is pressed against the end of the nest. The entire packer is then pushed to the other end of the table over the revolving gang of chisels which form the slots. (Shown in Fig. 3.) After preparing the other ends of the boards in a similar man-



ner, the ends of the boards are united by their tongues and slots to form the sides and ends of boxes.

I claim as my invention—

1. The adjustable packer, consisting of the frame X, the guides M M', the piece P, and screw S, as and for the purpose specified.

2. The packer, in combination with the adjustable table F, as and for the purpose specified.

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Witnesses:

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